WHAT IS CLAIMED IS:

1. A packet transmission system in which each terminal unit transmits data to a resource monitoring device of a network for sending the data to another terminal unit via the network, wherein:

the resource monitoring device includes:

a resource map database for storing a resource map in which central points of resources that can be used by the terminal units are described; and

a resource management means for obtaining the resource map from the resource map database and transmitting the resource map to the terminal units, and

each terminal unit includes:

a resource detection means for detecting resource usage statuses of terminal units that are using resources adjacent to a resource used by the terminal unit to which the resource detection means belongs by use of the resource map supplied from the resource monitoring device; and

a resource acquisition means for finding idle resources between the resource used by the terminal unit and the adjacent resources based on the resource usage statuses detected by the resource detection means and acquiring all or part of the idle resources so as to be incorporated in the usable resource of the terminal unit.

2. A packet transmission system as claimed in claim 1, wherein:

the resource monitoring device further includes a resource monitoring means for monitoring resource usage statuses of the terminal units by monitoring packet traffic from the terminal units, and

the resource management means includes a resource map update means for receiving the resource usage statuses of the terminal units from the resource monitoring means, finding a terminal unit whose

resource is insufficient by use of the resource usage statuses, and updating the resource map by setting a reservation resource reference point in an appropriate idle zone of the resource map so as to be used as the central point of a usable resource which is newly assigned to the terminal unit whose resource is insufficient, and

the resource acquisition means of terminal units that are using resources adjacent to the reservation resource reference point in the updated resource map reduce their resources so that an idle resource zone will be prepared around the reservation resource reference point, and

the resource acquisition means of the terminal unit whose resource is insufficient sets a new resource for the terminal unit in the idle resource zone.

3. A packet transmission system as claimed in claim 1, wherein the data transmission from the terminal units to the resource monitoring device is executed by means of CDMA (Code Division Multiple Access).

4. A packet transmission system as claimed in claim 1, wherein the resource acquisition means acquires approximately 50% of the idle resources so as to be incorporated in the usable resource of the terminal unit.

5. A packet transmission method for a packet transmission system in which each terminal unit transmits data to a resource monitoring device of a network for sending the data to another terminal unit via the network, comprising the steps of:

a resource map reception step in which each terminal unit receives a resource map in which central points of resources that can be used by the terminal units are described from the resource monitoring

device;

an adjacent resource usage status detection step in which the terminal unit detects resource usage statuses of terminal units that are using resources adjacent to a resource used by the terminal unit by use of the resource map supplied from the resource monitoring device; and

a resource acquisition step in which the terminal unit finds idle resources between the resource used by the terminal unit and the adjacent resources based on the resource usage statuses detected in the adjacent resource usage status detection step and acquires all or part of the idle resources so as to be incorporated in the usable resource of the terminal unit.

6. A packet transmission method as claimed in claim 5, further comprising:

a resource usage status monitoring step in which the resource monitoring device monitors resource usage statuses of the terminal units by monitoring packet traffic from the terminal units;

a resource map update step in which the resource monitoring device finds a terminal unit whose resource is insufficient by use of the resource usage statuses and updates the resource map by setting a reservation resource reference point in an appropriate idle zone of the resource map so as to be used as the central point of a usable resource which is newly assigned to the terminal unit whose resource is insufficient;

a resource reduction step in which terminal units that are using resources adjacent to the reservation resource reference point in the updated resource map reduce their resources so that an idle resource zone will be prepared around the reservation resource reference point; and

a resource setting step in which the terminal unit whose resource

is insufficient sets its new resource in the idle resource zone prepared in the resource reduction step.

7. A packet transmission method as claimed in claim 5, wherein the data transmission from the terminal units to the resource monitoring device is executed by means of CDMA (Code Division Multiple Access).

8. A packet transmission method as claimed in claim 5, wherein in the resource acquisition step, the terminal unit acquires approximately 50% of the idle resources so as to be incorporated in the usable resource of the terminal unit.

9. A machine-readable record medium storing one or more programs for instructing one or more computers to execute a packet transmission method for a packet transmission system in which each terminal unit transmits data to a resource monitoring device of a network for sending the data to another terminal unit via the network, wherein the packet transmission method comprises the steps of:

a resource map reception step in which each terminal unit receives a resource map in which central points of resources that can be used by the terminal units are described from the resource monitoring device;

an adjacent resource usage status detection step in which the terminal unit detects resource usage statuses of terminal units that are using resources adjacent to a resource used by the terminal unit by use of the resource map supplied from the resource monitoring device; and

a resource acquisition step in which the terminal unit finds idle resources between the resource used by the terminal unit and the adjacent resources based on the resource usage statuses detected in the adjacent resource usage status detection step and acquires all or part of

the idle resources so as to be incorporated in the usable resource of the terminal unit.

10. A machine-readable record medium as claimed in claim 9, wherein the packet transmission method implemented by the computers and the programs further comprises:

a resource usage status monitoring step in which the resource monitoring device monitors resource usage statuses of the terminal units by monitoring packet traffic from the terminal units;

a resource map update step in which the resource monitoring device finds a terminal unit whose resource is insufficient by use of the resource usage statuses and updates the resource map by setting a reservation resource reference point in an appropriate idle zone of the resource map so as to be used as the central point of a usable resource which is newly assigned to the terminal unit whose resource is insufficient;

a resource reduction step in which terminal units that are using resources adjacent to the reservation resource reference point in the updated resource map reduce their resources so that an idle resource zone will be prepared around the reservation resource reference point; and

a resource setting step in which the terminal unit whose resource is insufficient sets its new resource in the idle resource zone prepared in the resource reduction step.

11. A machine-readable record medium as claimed in claim 9, wherein the data transmission from the terminal units to the resource monitoring device is executed by means of CDMA (Code Division Multiple Access).

12. A machine-readable record medium as claimed in claim 9, wherein in the resource acquisition step, the terminal unit acquires approximately 50% of the idle resources so as to be incorporated in the usable resource of the terminal unit.